Family Kurtidae

Body strongly compressed, elongately ovoid, sloping back from head. Head rather small. Snout short. Eye rather small. Mouth inclined, lower jaw prominent. Teeth in jaws, on vomer and palatines. Maxillary expanded behind. Gill opening large. No pseudobranchiae. Branchiostegals 7. Air bladder present. Pyloric appendages few. Vertebrae 8 + 15. Scales very small. Dorsal single, spinous portion very low, short, rudimentary. Anal with long base, greatly longer than dorsal and preceded by 2 or 3 very low, short spines. Caudal forked. Paired fins

small, especially the ventrals.

One genus. The males with the curious cartilaginous arched extension directed forward a short distance before the dorsal fin.

Genus Kurtus Bloch

Kurtus Bloch, Naturg. Ausl. Fische, vol. 2, p. 121, 1786. (Type Kurtus indicus Bloch, monotypic.)

(Cyrtus Agassiz, Nomencl. Zool., Index Univers., p. 115, 1846. (Type Kurtus indicus Bloch. (Preoccupied by Cyrtus Latreille 1796 in diptera.)

Curtus Sherborn, Index. Anim., p. 507, 1902. (Type Kurtus indicus Bloch.) (Preoccupied by Curtus Duméril 1823 = Cyrtus Latreille 1796.)

(Kyrtus Bloch, Naturg. Ausl.. Fische, vol. 2, pl. 169, 1786. (Type Kurtus indicus Bloch.)

Bull. U. S. Fish Comm., vol. 22, 1902 (1904), p. 527 (Honolulu). 1/m Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 250, fig. 103 (Honolulu; Hilo). 1/m Jordan and Seale, ~~Bull. U. S. Fish Comm.~~, Proc. U. S. Nat. Mus., vol. 28, 1905, pp. 32, 782 (Negros). 1/m Steindachner, Sitz. Ber. Akad. Wiss. Wien, Math. naturw. Classe, vol. 115, pt. 1, 1906, p. 1386 (Samoa). 1/m Jordan and Seale, Bull. Bur. Fisher., vol. 25, 1905 (1906), p. 276 (Pago Pago; Apia). 1/m Steindachner, Denkschr. Akad. Wiss. Wien, vol. 71, pt. 1, 1907, p. 138 (Scheich Othman). 1/m Kendall and Radcliffe, Mem. Mus. Comp. Zoöl., vol. 35, 1912, p. 123 (Rikitea, Mangareva). 1/m Fowler, Copeia, No. 112, November 20, 1922, p. 83 (Hawaii). 1/m Fowler and Bean, Proc. U. S. Nat. Mus., vol. 62, 1922, p.

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Bossus Wilkes, Encycl. Londin., Jan. 7, 1799, plate of Kyrtus indicus Bloch, designated type by Whitley, Rec. Austral. Mus., vol. 19, no. 1, p. 80, Aug. 2, 1933.

Barbels moderate. Snout scaly.
Species few, mostly of small
size in the Indo-Pacific.

Analysis of the species 6 Hawaiian

a.' Body uniform, brown above, fins
yellowish. vanicolensis.

a.² At least one yellow median lateral
band from head to caudal persistant.

b.' No yellow line (in addition to lateral
band) on head. auriflamma.

b.² A yellow line on head (besides
golden median lateral band) erythrinus.

a.³ Median lateral golden band, besides
narrower one above and 3 below parallel;
(all fading in preserved examples); usually
dark lateral blotch before end of depressed
pectoral. samoensis.

a.⁴ Body covered with 5 darker transverse
broad bands (fading in preserved examples)
pflugeri. Coral 3 none only

Body with back elevated. Head rather deep. Snout conic. Eye before middle in head length. Maxillary reaches below eye. Mouth well inclined, lower jaw protruded, with tuberosity at symphysis. Villeform teeth in jaws, on vomer and palatines. Preopercle denticulated., Scales irregular. Lateral line incomplete. Dorsal with short base, moderately high. Anal base half length without caudal. Caudal rather large. Horizontal backwardly directed spine between ventrals. Air bladder enclosed in conical cavity made by ribs, which dilated, condex and form rings in contact with each other.

Analysis of Species

a.¹ Anal rays 31 to 33. *indicus.*

a.² Anal rays 40 to 42. *gulliveri.*

14677 and 23234. Tataan, Tawi Tawi Group. February 20, 1908. Length 125 to 134 mm.

7927 and 8696. Tutu Bay, Jolo Island, second anchorage. September 19, 1909. Length 111 to 127 mm.

21509 and 21510. Ulugan Bay, Palawan Island. December 28, 1908. Length 128 to 133 mm.

23848, 23849, 23923, 23924. Togian Bay, Togian Island, Gulf of Tomini, Celebes, Dutch East Indies. November 19, 1909. Length 65 to 104 mm.

Kurtus indicus Bloch

Kurtus indicus Bloch, Naturges. Ausl. Fische, vol. 2, p. 122, pl. 169, 1786 (type locality, East Indian waters). — Bonnaterre, Tabl. Ichth., p. 52, pl. 31, fig. 112, 1788 (East Indies). — Gmelin, Syst. Nat. Linn., pt. 1, p. 1184, 1789 ("in mari indico"). — Walbaum, Artedi Pisc., vol. 3, p. 669, 1792 (copied). — Schneider, Syst. Ichth. Bloch, p. 163, 1801 (Tranquebar). — Shaw, General Zoology, vol. 4, p. 185, pl. 25, 1804 (copied). — Shaw and Nodder, Nat. Miscellany, vol. 24, pl. 1056, 1813 (Indian Seas).

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Mulloidichthys auriflamma (Forskål)

Mullus auriflamma Forskål, Descript. Animal., 1775, pp. xiv, 30. Djedda, Red Sea. 1/m Bonnaterre, Tabl. Ichth., 1788, p. 144 (Red Sea). 1/m Gmelin, Syst. Nat. Linn., vol. 1, 1789, p. 1341 (Red Sea). 1/m Walbaum, Artedi Pisc., vol. 3, 1792, p. 620 (on Forskål). 1/m Schneider, Syst. Ichth., 1801, p. 79 (Red Sea). 1/m Lacépède, Hist. Nat. Poiss., vol. 3, 1802, pp. 382, 400 (not pl. 13, fig. 1) (Arabia).

Mulloides auriflamma Klunzinger, Verhand. Zool. botan. Gesellsch. Wien, vol. 20, 1870, p. 742 (Koseir, Red Sea); Fische Roth. Meer., 1884, p. 50. 1/m Steindachner, Denkschr. Akad. Wiss. Wien, math.-naturwiss. Klasse, vol. 70, pt. 1, 1901, p. 485 (Laysan, Honolulu). 1/m Jenkins, Bull. U. S. Fish Comm., vol. 22, 1902 (1903), p. 454 (Honolulu). 1/m Snyder,

— Bleeker, Verh. Batavia. Genoot. (Natuurkl.), vol. 24, p. 78, 1852 (Batavia, Tegal, Surabaja, Passuruan); (Nal. Icht. Bengal), vol. 25, p. 46, 1853 (reference); Act. Soc. Sci. Ind. Neerl. (Borneo), vol. 3, p. 2, 1858; Nat. Tijds. Ned. Indië, vol. 18, p. 367, 1859 (Banka); Act. Soc. Sci. Ind. Neerl. (Borneo), vol. 8, p. 14, 1860. — Günther, Cat. Fish. Brit. Mus., vol. 2, p. 510, 1860 (Pinang; Malay Peninsula; India; China). — Bleeker, Verslag. Kon. Akad. Wet. Amsterdam, vol. 12, p. 75, 1861 (Pinang); Ned. Tijds. Dierk., vol. 4, p. 133, 1873 (reference).

— Day, Fishes of India, pt. 2, p. 174, pl. 42, fig. 1, 1876 (Sunderbunds).

Coconada

— Day, Fauna of British India, Fishes, vol. 2, p. 98, fig. 45, 1889.

Cyrtus indicus Cantor, Journ. Asiatic Soc. Bengal, vol. 18, pt. 2, p. 1127, 1849 (1850) (Malay Peninsula and islands).

— Kner, Reise Novara, Fische, p. 172, 1865 (Madras).

radiating striae; 88 to 193 apical denticles with 1 to 10 transverse series of basal elements; ~~xxxxx~~ circuli fine.

D. VI — I, 9, I, second spine 1 2/3 to 1 4/5 in total head length, first ray 1 1/4 to 1 1/3; A. II, 8, I, second spine 2 to 2 2/5, first ray 1 2/5 to 1 1/2; caudal 1 1/8 to 1 1/5, moderately emarginate behind with rounded lobes; least depth of caudal peduncle 2 1/6 to 2 1/5; pectoral 1 2/5 to 1 1/2; ventral 1 1/2 to 1 2/3.

Brown above, paler to quite light below. Most examples show median portion of each scale darker on back and upper surface of body, producing a more or less regularly spotted appearance. Small round neutral dusky spot, about size of or smaller than pupil on opercle

Kurtus blochianus Lacépède, Hist. Nat. Poiss., vol. 2, pp. 516, 517, 1802 (on Bloch pl. 169).

Kurtus blochii Cuvier, Hist. Nat. Poiss., vol. 9, p. 421, pl. 277, 1833 (type locality, Java). — Swainson, Nat. Hist. Animals, vol. 2, p. 253, 1839 (reference). — Valenciennes, Règne Animal, Cuvier, Poiss., ed. ill., pl. 64, fig. 2, 1839.

Kurtus cornutus Cuvier, Hist. Nat. Poiss., vol. 9, p. 426, 1833 (type locality, Pondicherry). — Valenciennes, Règne Animal, Cuvier, Poiss., ed. ill., pl. 64, fig. 1. 1839.

just above level of pectoral origin.
In many examples a variably distinct
neutral dusky line from lower hind
eye edge to angle of preopercle ridge,
Iris with neutral gray tinge.
Neutral dusky vertical band extends
below bases of first 3 dorsal spines
down to median axis of body, its
width equal to ½ scale exposures.
At soft dorsal origin a short neutral
dusky vertical bar 1 or 2 scales
wide at first and over 1 more scale
below so that not quite reaching lateral
line. Third neutral dusky transverse
band, inclined little forward, from
bases of last dorsal rays, ½ scale
wide and extends below lateral line
1 scale. Sometimes median basal scale
in lateral line on caudal dark or

Depth 2 3/4; head 3. Snout 4 in head from snout tip; eye 4, subequal with snout, 1 1/4 in interorbital; maxillary reaches 1/2 in eye, expansion 1 1/4 in eye, length 2 in head from snout tip; interorbital rather low, upper profile slightly concave over eye; strong short spine, directed downwards at preopercle angle and 2 or 3 more along its lower edge; occipital ridge rough.

Scales fine, irregular. Lateral line rather high, parallel with profile of back, ceases opposite hind end of soft dorsal.

D. VI or VII, 13 or 14, third ray 1 1/2 in total head; A. II, 31 to 33, fin height 2 1/8; caudal 1 1/10, lobes pointed; least depth of caudal peduncle 3; pectoral 1 1/4, rays 21; ventral rays I, 5, fin 2 3/4

in total head.

Silvery, shot with steel blue or lilac. Back with fine black dots forming rounded black spot behind occiput. Length 113 mm.

(Day.)

India, Malaya, East Indies, China.

Kurtus gulliveri Castelnau

Kurtus gulliveri Castelnau, Proc. Linn. Soc. New South Wales, vol. 2, pt. 3, p. 233, May 1878 (type locality, Norman River, Gulf of Carpentaria; in fresh water). — Weber, Nova Guinea, vol. 9, pt. 4, p. 591, pl. 12, figs. 1–6, pl. 13, fig. 3, 1913 (Varen River; Lorentz River; Biwak Island). — Fowler, Mem. Bishop Mus., vol. 10, p. 154, 1928 (compiled). — McCulloch, Austral. Mus. Mem., No. 5, pt. 2, p. 236, Sep. 10, 1929 (reference). — Fowler, Mem. Bishop Mus., vol. 11, No. 6, p. 406, 1934 (Strickland River material noticed).

Depth 2 1/2 to 2 4/5; head 2 3/5 to 2 3/4, width from upper jaw tip 1 7/8 to 2. Snout 3 2/5 to 3 1/2 in head; eye 3 to 3 7/8, greater than snout or interorbital but becomes subequal with age; maxillary reaches opposite 2/3 to 3/5 in eye, expansion 1/2 to 1 3/4 in eye, length 2 to 2 1/8 in head; bands of fine villiform teeth in jaws, on vomer and palatines; interorbital 4 to 4 1/8, nearly level; preopercle ridge and edge denticulate, though former less so or with but few points in young; lower posterior suborbital edges with four serrae with age; gill rakers 5+16, lanceolate, equal gill filaments or 2 1/4 in eye.

Scales 24 or 25 in lateral line to caudal base and 4 or 5 more on latter, 2 or 3 above, 6 below, 5 or 6 predorsal, 3 rows on cheek to preopercle ridge; muzzle, including maxillary, preorbital and interorbital naked. Scales with 15 to 17 basal

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Cyrtus gulliveri Ramsay and Ogilby, Proc. Linn. Soc. New South Wales, ser. 2, vol. 1, p. 10, 1886 (type; Strickland River, New Guinea).

Amia boilomatodon (Bleeker).

Apogon boilomatodon Bleeker, Nat. Tijds. Ned. Indië, vol. 4, 1853, p. 134. Ternate. — Günther, Cat. Fishes Brit. Mus., vol. 1, 1859, p. 234 (copied). — Weber, Siboga Exped., vol. 65, 1913, p. 222 (Leba, Savu Island, Sangisiapo, Sulu Archipelago; Nusa Laut).

Amia boilomatodon Bleeker, Atlas Ichth. Ind. Néerl., vol. 7, 1873-76, p. 81, pl. (29) 307, fig. 1 (Singapore, Java, Sangir, Ternate, Batjan, Amboina).

Depth 2 1/2; head not quite 3 1/3. Upper profile convex in front, very convex and almost gibbous over preopercle, very elevated in front of and below dorsal, then forms regular convex curve to caudal; lower profile very concave up to anal, then straight; mouth cleft very oblique; series of 8 spinous tubercles along front part of back. D. II, 13; A. II, 40 to 42; caudal large. Yellow flesh color, in life diaphanous. Length little over 100 mm.

(Castelnau.)

North-west Australia, Queensland, New Guinea.